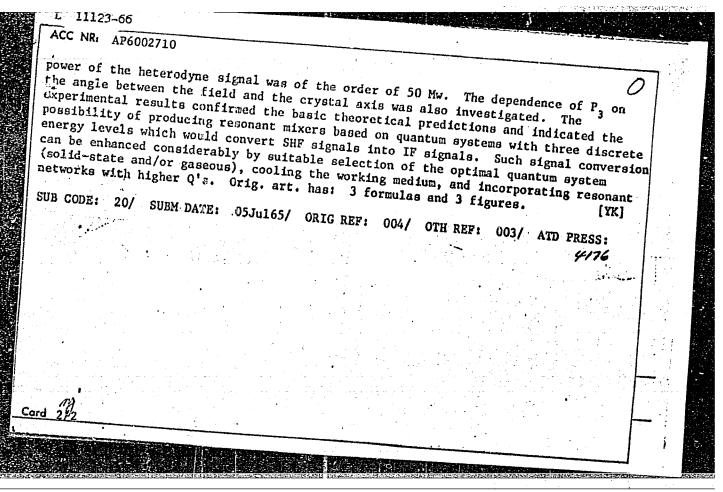L 10951-66

ACC NR: AP6002286

pycrylhydrazyl in a constant magnetic field H_0. In some of the experiments the pumping frequency $\omega_1/2\pi$ was in the range of 10 Gcps and the signal frequency $\omega_2/2\pi$ was varied from 10 to 20 Mcps. Measurements were obtained both in continuous and pulsed operation modes. In other experiments the pump and signal frequencies were 25 Mcps. The experimental and theoretical data showed that calculations of Raman effects in a two-level system were correct. It was shown that when the ratio of the intensity of stimulated Raman scattering to the general resonance absorption is small, the effect cannot be used for amplification of superhigh-frequency signals. In case of amplification during saturation, this effect can be used for amplification in the cm and especially in the mm ranges. Orig. art. has: 8 formulas and 3 figures. [JA]

SUB CODE: 20, 17 / SUBM DATE: 26Jun64/ ORIG REF: 006/ OTH REF: 015/
ATD PRESS: 4/70

Roman Laser 25,44

Card 2/2

L 11123-66 EWT(1)/EWP(e)/EWT(m)/EWA(h)   WH

AUTHOR: Klyshko, D. N.; Penin, A. N.; Tumanov, V. S.   39

ORG: none   B

TITLE: Frequency subtraction by means of a three-level system

ABSTRACT: Resonance subtraction of two βH frequencies ($\lambda \approx 3$ cm) by means of a
three-level quantum system was investigated theoretically using graphical methods,
and experimentally using ground-state spin levels of a ruby single crystal. The
experiment was carried out on a ruby single crystal with a volume of 0.15 cm^3 and
a 0.02% concentration of chromium ions. The three lower Zeeman levels were used.
To permit all transitions, a constant magnetic field (H = 625 oe) perpendicular to
the crystal axis was used. The cylindrical ruby crystal was placed in a rectangular
cavity where it was pumped by the H_{011} and H_{101} modes with frequencies corresponding
to 10.22 and 10.15 Gcps, respectively. A coil with Q ≈ 20 was wound around the
specimen and tuned at 70 Mcs to the resonant amplifier. The maximum output power
at the resultant (difference) frequency P_3 was of the order of $2 \cdot 10^{-14}$ w, while the

Card 1/2   2

L 11123-66

ACC NR: AP6002710

power of the heterodyne signal was of the order of 50 Mw. The dependence of P_3 on the angle between the field and the crystal axis was also investigated. The experimental results confirmed the basic theoretical predictions and indicated the possibility of producing resonant mixers based on quantum systems with three discrete energy levels which would convert SHF signals into IF signals. Such signal conversion can be enhanced considerably by suitable selection of the optimal quantum system (solid-state and/or gaseous), cooling the working medium, and incorporating resonant networks with higher Q's. Orig. art. has: 3 formulas and 3 figures.

[YK]

SUB CODE: 20/ SUBM DATE: 05Jul65/ ORIG REF: 004/ OTH REF: 003/ ATD PRESS:

4176

Card 2/2

KLYSHKO, D.N.; TUMANOV, V.S.; YARYGIN, V.P.

Subtraction of the frequency in a two-level system. Vest. Mosk.un.
Ser. 3: Fiz., astron. 20 no.4:89-90 Jl-Ag '65.

(MIRA 18:1ᐤ)

1. Kafedra radiotekhniki Moskovskogo gosudarstvennogo universiteta.
Submitted February 1, 1965.

L 45094-66   EWT(m)/T

ACC NR: AP6024885   SOURCE CODE: UR/0056/66/051/001/0241/0249

63
B

AUTHOR: Tumanov, V. S.

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet)

TITLE: Interaction of magnons with photons and phonons

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v.51, no.1, 1966, 241-249

TOPIC TAGS: magnon, phonon, ~~laser~~, magnetostriction, PHOTON, LASER RADIATION

ABSTRACT: Interaction between magnons and photons and magnons and phonons in which virtual magnons are involved is considered. The diagram technique involving magnon causal functions is used in the calculations. Characteristics of photon decay into a photon and magnon are calculated. It is suggested that the process may be detected by irradiating ferrites with a laser beam. A quantum interpretation of indirect phonon instability is presented and a calculation is presented of the corresponding matrix elements for an arbitrary direction of motion and all three phonon polarizations. Orig. art. has: 27 formulas.
[CS]

SUB CODE: 20/ SUBM DATE: 24Jan66/ ORIG REF: 007/ OTH REF: 006

Card 1/1   blg

RYBALKIN, G.I., inzh.; SHARAPOV, V.A., inzh.; VELIKIY, I.G., inzh.;
      MALIOVANOV, D.I., doktor tekh. nauk; PRUZHNIER, V.L., inzh.;
      KONDORSKIY, R.L., inzh.; TUMANOV, V.Ya., inzh.; POGORELOV,
      A.K., kand. tekhn. nauk

The BUKS-I equipment is an important step in the accomplishment
of overall mechanization of shaft sinking. Shakht. stroi. 9 no.2:
1-3 F '65.   (MIRA 18:4)

1. Kombinat Luganskshakhtostroy (for Rybalkin, Sharapov, Velikiy).
2. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy
institut podzemnogo i shakhtnogo stroitel'stva (for Maliovanov,
Pruzhnier, Kondorskiy, Tumanov, Pogorelov).

GOLOVACHEV, V.F.; TUMANOV, V.Ye.

Using electric steam boilers in hotel laundries.. Gor.khoz.Mosk. 35 no.5:36-37 My '61.   (MIRA 14:6)
(Boilers) (Laundry industry)

GRISHANIN, Kirill Vladimirovich; TUMANOV, V.V., retsenzent; GILYAROV,
        N.P., red.; VOLCHOK, K.M., tekhn. red.
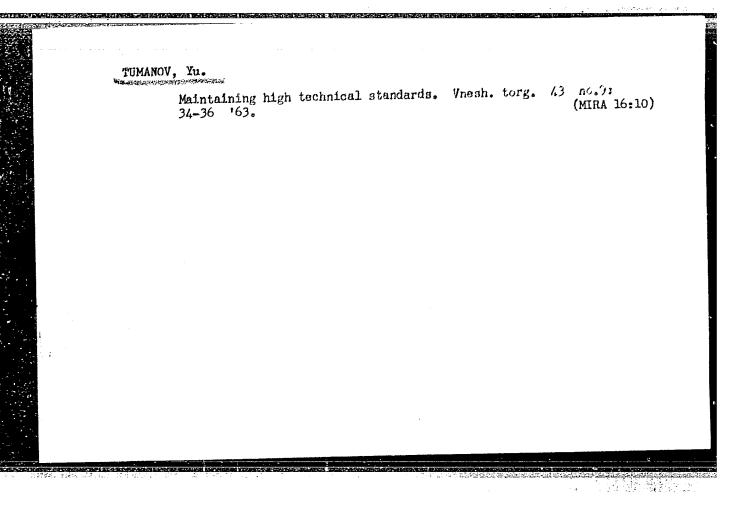
        [Hydraulics]Gidravlika. Izd.2., perer. Leningrad, Izd-vo
        "Rechnoi transport," 1962. 268 p.   (MIRA 16:3)
                    (Hydraulics)

TUMANOV, Yu.

The "secret" of popularity. Vnesh. torg. 43 no.7:16-17 '63.
(MIRA 16:8)

(Leningrad--Printing machinery)

TUMANOV, Yu.

Maintaining high technical standards. Vnesh. torg. 43 no.9:
34-36 '63.

(MIRA 16:10)

BERMAN, L.D., doktor tekhn.nauk, prof.; TUMANOV, Yu.A., inzh.

Studying the heat transmission in case of the moving steam
condensation on a horizontal tube. Teploenergetika 9 no.10:
77-83 O '62.   (MIRA 15:9)

1. Vsesoyuznyy teplotekhnicheskiy institut.
                              (Heat—Transmission)

SEMENOV, P.A., prof., doktor tekhn.nauk; MATROZOV, V.I., kand.tekhn.nauk;
TUMANOV, Yu.V., inzh.

Effect of some geometric parameters on the resistance and mass
transfer in a jetless Venturi absorber. Khim.mash. no.5:16-18
S-O '60.   (MIRA 13:9)
        (Absorption)   (Mass transfer)

ARTAMONOV, D.S.; ORLOV, B.N.; TUMANOV, Yu.V.

Determining the coefficients of mass transfer during absorption. Khim. i tekh. topl. i masel 10 no.10:15-16 O '65.

(MIRA 18:10)

1. Moskovskiy institut khimicheskogo mashinostroyenina.

MATROZOV, V.I., kand.tekhn.nauk; SEMENOV, P.A., doktor tekhn.nauk, prof.;
     TUMANOV, Yu.V., inzh.

     Hydraulics and mass transfer in a jetless Venturi absorber. Khim.
mash. no. 3:11-14 My-Je '60.   (MIRA 14:5)
          (Absorption)   (Mass transfer)

S/184/60/000/005/014/021/XX
A104/A026

AUTHORS: Semenov, P.A., Professor, Doctor of Technical Sciences; Matrozov,
V.I., Candidate of Technical Sciences; Tumanov, Yu.V., Engineer

TITLE: The Influence of Some Geometric Parameters on Resistance and Mass
Transfer in the Jetless Venturi Tube

PERIODICAL: Khimicheskoye mashinostroyeniye, 1960, No. 5, pp. 16 - 18

TEXT: The article is a continuation of an earlier paper on the hydraulics
and mass transfer in the Venturi tube (Ref. 1, V.I. Matrozov, P.A. Semenov and
Yu.V. Tumanov, Khimicheskoye mashinastroyeniye, 1960, No. 3). The present paper
deals with the influence of the conic shape of confusers and diffusers on the hy-
draulic resistance and mass transfer in the jetless Venturi tube. Performance
tests on tubes with confuser taper angles of 17, 31 and 61° showed, that taper
angles bear no effect on hydraulic resistance or mass transfer, nor depend on
them the transition from pulsating to steady process. .Hydraulic tests on tubes
with diffuser taper of 8, 17 and 30° revealed that whatever this taper may be,
there are always two hydraulic processes - pulsating and steady - with a transi-
tion zone between them. A comparison of data obtained at similar gas velocity

Card 1/3

S/184/60/000/005/014/021/XX
A104/A026

The Influence of Some Geometric Parameters on Resistance and Mass Transfer in
the Jetless Venturi Tube

of 57.0 m/sec shows fluctuations of the mass transfer coefficient caused by in-
creased taper of the diffuser. Further tests concerned the selective determina-
tion of the ammonia content in liquid (film) on the diffuser surface and in dif-
fused liquid suspended in the gas flow. It was established that there is an
equal amount of ammonia in both. At high ratios of $\frac{L}{G}$ the content of ammonia in
the film on the diffuser walls decreased by 5 - 7%. The mass transfer occurs
primarily during the formation of the two-phase flow which is confirmed by John-
stone (Ref. 2). Therefore, power losses caused by the friction between the flow
and the liquid film are of no consequence and decrease at growing taper of the
diffuser. At high ratios of $\frac{L}{G}$, when friction losses determine the full resist-
ance of the apparatus, an increased taper of the diffuser leads to an intensified
mass transfer, whereas the power consumption remains unchanged. Tube No. 1 was
subjected to three series of tests on the influence of the absolute absorption
volume V behind the Venturi tube on mass transfer and extraction coefficients.
The velocity of the air-ammonia mixture was V = 72.5 m/sec constant, the irriga-
tion $\frac{L}{G}$ fluctuated between 0.67 - 4.90 $1/nm^3$. The volume of absorption was

Card 2/3

S/184/60/000/005/014/021/XX
A104/A026

The Influence of Some Geometric Parameters on Resistance and Mass Transfer in
the Jetless Venturi Tube

0.00169, 0.0159 and 0.0318 m^3. The volume of the Venturi pipe was 0.0028 m^3.
There are 6 figures, 1 table and 2 references: 1 English and 1 Soviet.

Card 3/3

SEMENOV, P.A., doktor tekhn.nauk; TUMANOV, Yu.V.; CHEKHOV, O.S., kand.tekhn. nauk

Jetless Venturi absorber for the absorption of ammonia from coke-oven gas. Koks i khim. no.8:34-37 '60.   (MIRA 13:8)
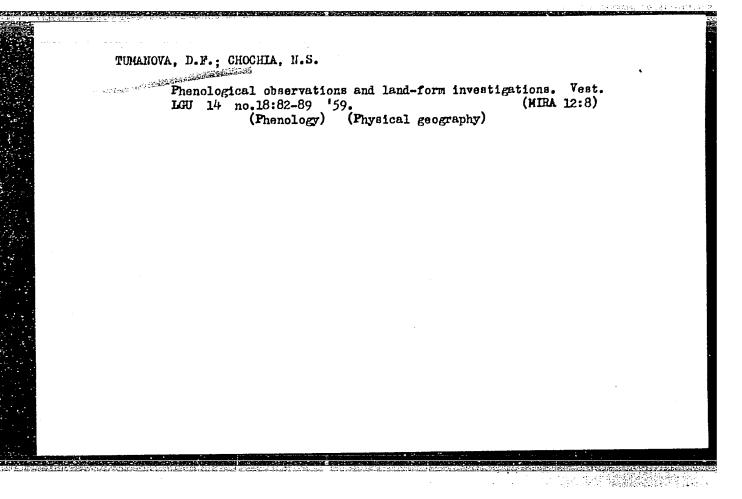
1. Moskovskiy institut khimicheskogo mashinostroyeniya.
        (Ammonia)   (Coke-oven gas) (Absorption)

GUREVICH, A.Ye.; KUZOVLEVA, O.B.; TUMANOVA, A.Ye.

Production of protein-cellulose complexes (immunosorbents) in
suspensions with the capacity for binding large amounts of anti-
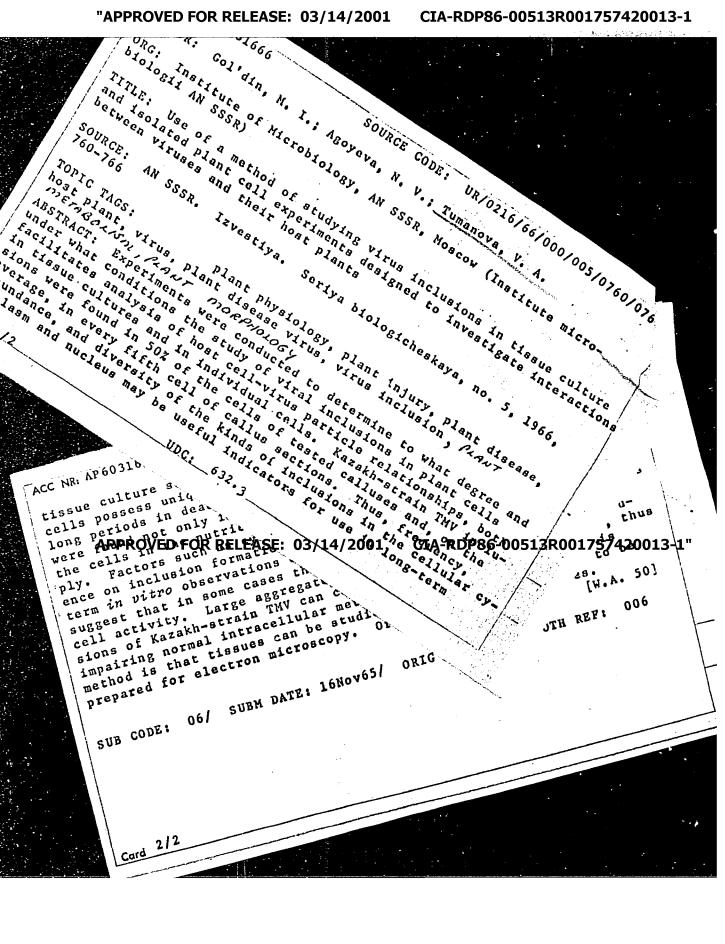bodies. Biokhimiia 26 no.5:934-942 S-O '61.   (MIRA 14:12)

1. Laboratory of Pathology of Protein Metabolism and Immunochemistry,
Institute of Biological and Medical Chemistry, Academy of Medical
Sciences of the U.S.S.R., Moscow.
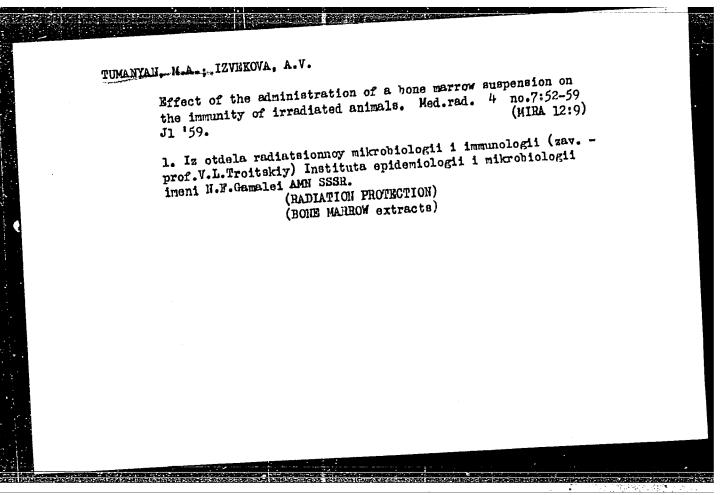   (SORBENTS)   (ANTIGENS AND ANTIBODIES)

TUMANOVA, D.F.; CHOCHIA, N.S.

Phenological observations and land-form investigations. Vest.
LGU 14 no.18:82-89 '59.   (MIRA 12:8)
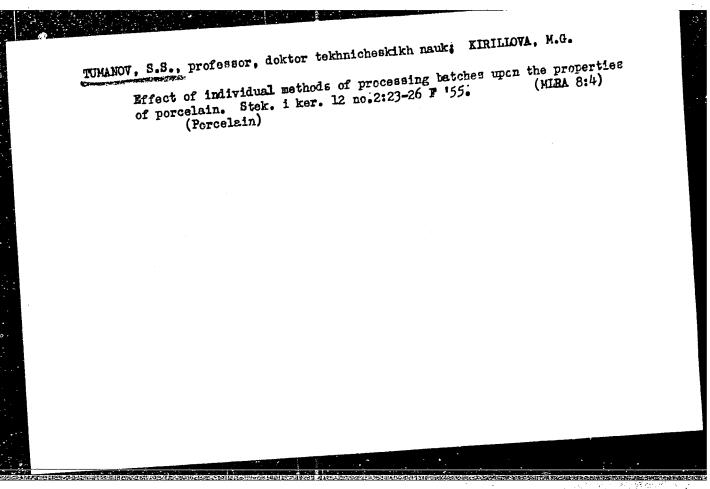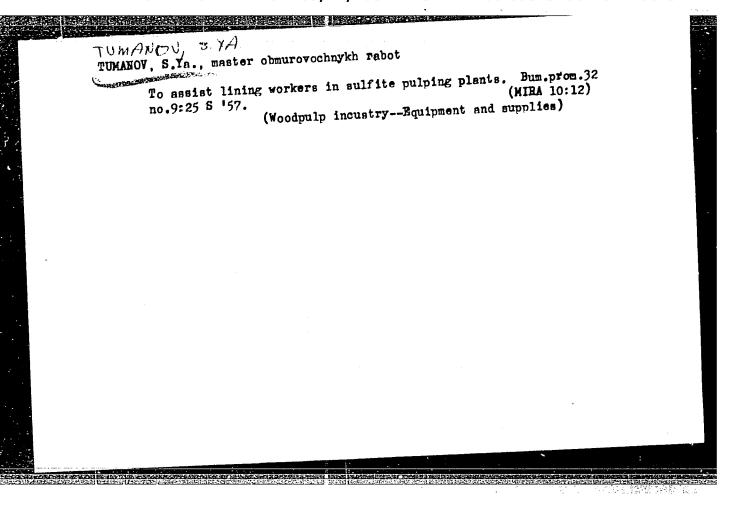   (Phenology)   (Physical geography)

KISHKIN, S.T.; POLYAK, E.V. Prinimali uchastiye: ROVENSKIY, G.M. [deceased];
    IGNATOVA, I.A.; TRUSOVA, Ye.F.; TUMANOVA, G.I.

    Kinetics of the failure of heat-resistant alloys during the creep
    process. Issl. po zharopr. splav. 7:295-308 '61.   (MIRA 14:11)
        (Heat-resistant alloys--Testing) (Creep of metals)

ACC NR: AP6031666

ORG: Gol'din, M. I.; Agoyeva, N. V.; Tumanova, V. A.
Institute of Microbiology, AN SSSR, Moscow (Institute micro-
biologii AN SSSR)

SOURCE CODE: UR/0216/66/000/005/0760/076

TITLE: Use of a method of studying virus inclusions in tissue culture
and isolated plant cell experiments designed to investigate interactions
between viruses and their host plants

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 5, 1966,
760-766

TOPIC TAGS: plant virus, plant disease virus, virus inclusion, plant disease,
host plant, *metabolism/plant, plant physiology, plant injury, plant disease,
metabolism/plant, morphology

ABSTRACT: Experiments were conducted to determine to what degree and
under what conditions the study of viral inclusions in plant cells
facilitates analysis of host cell-virus particle relationships, both
in tissue cultures and in individual cells. Kazakh-strain TMV i
were found in 50% of the cells of tested calluses and, TMV i
average, in every fifth cell of the callus sections. Thus, fre
undance, and diversity of callus sections. Thus, in the long-term cy-
lasm and nucleus may be useful kinds of inclusions for use in the cellular
/2 indicators

UDC: 632.3

tissue culture s
cells possess uniq
long periods in dea
were cells in nutri
ply. Factors such
ence on inclusion format
term in vitro observations
suggest that in some cases th
cell activity. Large aggregat
sions of Kazakh-strain TMV can c
impairing normal intracellular me
method is that tissues can be studi
prepared for electron microscopy.

SUB CODE: 06/   SUBM DATE: 16Nov65/   ORIG

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[W.A. 50]

JTH REF: 006

Card 2/2

TUMANYAN, M.A.; IZVEKOVA, A.V.

Effect of the administration of a bone marrow suspension on
the immunity of irradiated animals. Med.rad. 4 no.7:52-59
                                              (MIRA 12:9)
Jl '59.

1. Iz otdela radiatsionnoy mikrobiologii i immunologii (zav. -
prof.V.L.Troitskiy) Instituta epidemiologii i mikrobiologii
imeni N.F.Gamalei AMN SSSR.
                    (RADIATION PROTECTION)
                    (BONE MARROW extracts)

TUMANOV, S.S., professor, doktor tekhnicheskikh nauk; KIRILLOVA, M.G.

Effect of individual methods of processing batches upon the properties
of porcelain. Stek. i ker. 12 no.2:23-26 F '55.   (MLRA 8:4)
          (Porcelain)

TUMANOV, S.Ya.

TUMANOV, S.Ya., master obmurovochnykh rabot

To assist lining workers in sulfite pulping plants. Bum.prom.32 no.9:25 S '57. (MIRA 10:12)

(Woodpulp incustry--Equipment and supplies)

TUMANOV S. YA.

USSR/Brick   Mar/Apr 1947
    Boilers

"Brickwork in Boilers," S. Ya. Tumanov, 3 pp

"Bumazhnaya Promyshlennost'" Vol XXII, No 3

Technical discussion of type of brick which is
best for boilers used in manufacture of sulfide
cellulose.

10T1

23

Lining of digesters for sulfite pulping. S. Ya. Tumanov. Bumazhnaya Prom. 16, No. 4, 13-17(1938). The tech. progress made in the Soviet Union in the art of ceramic lining of pulp digesters is discussed. Directions for the operation are given.

Chas. Blanc

METALLURGICAL LITERATURE CLASSIFICATION

1. TUMANOV, S. YA.

2. USSR (600)

4. Paper-Making Machinery

7. Assembly and maintenance of the lining of digesters. Bum.prom. 27 no. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

TUMANOVA, S.Yu.

Quantitative determination of gangliosides in the brain. Nerv.
sist. no.5:22-28 '64.   (MIRA 18:3)

1. Laboratoriya obmena veshchestv Leningradskogo gosudarstvennogo
universiteta.

FLIS, I.Ye.[deceased]; TUMANOVA, T.A.: GRAD, N.M.; AL'SHITS, I.M.;
DMITRIYEVA, A.N. Primali uchastiye: GLADKAYA, L.A.; MUDROV,
O.A.; ZUBOVA, G.N.

Effect of water on polyester resins and glass plastics based on
same. Plast.massy no.10:33-36 '64.   (MIRA 17:10)

L 24197-66   EWT(m)/EWP(t)   IJP(c)   JD/WB

ACC NR: AP6013314   SOURCE CODE: UR/0413/66/000/008/0124/0124

INVENTOR: Tumanova, T. A.; Andreyeva, V. V.

ORG: none

TITLE: Protection of titanium against corrosion in mineral acids with inhibitors.
Class 48, No. 180938

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 124

TOPIC TAGS: corrosion, titanium corrosion, corrosion inhibition, corrosion inhibitor

ABSTRACT: This Author Certificate introduces a method of inhibiting titanium corro-
sion in mineral acids. In order to increase the effectiveness of the protection
and reduce the harmfulness of the process, 0.05—0.30 wt% nitric acid or nitrides
are added, depending on the acid concentration.   [WW]

SUB CODE: 11, 13/ SUBM DATE: 15Jun63/ ATD PRESS: 4245

Card 1/1   UDC: 620.197.3:669.295

B 64
u

SA

621.331(4.)

4156. The development of the power economy of the Moscow Metropolitan.
V.A. Tumanov, B. G. Gurvich and E. I. Bykov. Elektrichestvo (No. 7)
23-9 (July, 1950) In Russian.

A general review covering substations, protection (differential-
current, potential-current and differential-impulse protection), telecontrol
and telemetering, the cable system, maintenance and breakdown experience,
lighting: general power economy: organization and rationalization:
co-operation with industry and research organizations.   B. F. KRAUS

METALLURGICAL LITERATURE CLASSIFICATION

TUMANOV, V.A., inzhener, redaktor; GERONIMUS, B.Ye., kandidat tekhnicheskikh
nauk, redaktor; KHITROV, P.A., tekhnicheskiy redaktor.

[Electric systems for subways; operation, repair, and adjustment]
Elektrosnabzhenie metropolitenov; ekspluatatsiia, remont i naladka.
Moskva, Gos. transp.zhel-dor.izd-vo, 1957. 419 p.

(MIRA 10:6)

(Moscow—Subways)

TUMANOV, V.,dots.

Electric steam boilers for use in construction. Na stroi.
Mosk. no.1:20 Ja '59.   (MIRA 12:1)

1. Moskovskiy energeticheskiy institut.
                    (Boilers)

TUMANOV, V. A., Eng.

PA 164T13

USSR/Electricity - Power Systems   Jul 50
                    Subways

"Development of the Moscow Subway Power System,"
V. A. Tumanov, V. G. Gurvich, E. I. Bykov, En-
gineers, Moscow Subway imeni Kaganovich

"Elektrichestvo" No 7, pp 23-29 ·

Describes development and improvement of Moscow
subway power system over 15 years. Gives opera-
tional data on substation equipment, electric
networks, automatic devices, telecontrol, and
protection. Details work done by number of Mos-
cow plants, research institutes and organiza-
tions.
FDD
                                        164T13

TUMANOV, V.I., inzh.; MURATOV, I.I., inzh.

Experimental investigation of a synchronous motor with an externally completed flux path. Vest. elektroprom. 29 no.3:30-36 Mr '58.

(MIRA 11:4)

1. Nauchno-issledovatel'skiy institut elektropromyshlennosti.

(Electric motors, Synchronous)

TUMANOV, V.I.

AUTHORS: Tumanov, V.I., Engineer, and Furatov, I.I., Engineer.   110-3-6/22

TITLE: An Experimental Investigation of a Synchronous Motor with
            an Externally-closed Magnetic Circuit (Eksperimental'noye
            issledovaniye sinkhronnogo dvigatelya s vneshnezamknutym
            magnitnym potokom)

PERIODICAL: Vestnik Mashinostroyeniya, 1950, vol.29, No.3,
                                         pp. 30 - 36 (USSR).

ABSTRACT: For certain types of drive, synchronous motors are
    required that have neither sliprings nor rotor windings. Types
    available for such application include those with permanent
    magnets, reaction motors, hysteresis motors and motors with the
    magnetic circuit externally closed. This latter type was
    invented by A.G. Iosif'yan and V.I. Tumanov in 1935. High-
    power motors of this type with good characteristics are feasible,
    but as their properties and characteristics have not been
    studied, such motors have not been built. Accordingly, an
    experimental investigation was made on a motor with magnetic
    circuit externally closed, and having the following character-
    istics: power 500 W, current 1.66 A, line voltage 220 V,
    speed 3 000 r.p.m., power factor 1.0, field current 3.2 A and
    field voltage 15.2 V.

Card1/5   The electric motor with externally-closed magnetic circuit is

An Experimental Investigation of a Synchronous Motor with an
Externally-closed Magnetic Circuit

110-3-7/20

a development of the contactless selsyn which has been devel-
in the USSR. It is a synchronous machine with alternating
system having salient poles and the starting properties of an
induction motor. The magnetic circuit is not closed within the
machine as in the usual synchronous motor, but axially through
additional air-gaps and an external magnetic circuit. The path
of the magnetic lines of force is shown in Fig.1, from which it
will be seen that the excitation flux is linked with the 3-phase
stator winding as in an ordinary synchronous motor. A special
feature of the motor is the absence of rotor windings. The
magnetic circuit of the rotor is formed by the stator, by a
special rotor having two parts that are magnetically separated
and by a stationary external magnetic path. The construction
is illustrated schematically in Fig.1 and described. The
components separating the two parts of the rotor, and two rings
on the rotor, are made of non-magnetic conducting material which
is in good contact with the rotor steel. These parts provide
the necessary starting properties. The end rings are non-
magnetic.

Card2/5 Synchronous operating conditions were first investigated, using

An Experimental Investigation of a Synchronous Motor with an 110-3-6/22
Externally-closed Magnetic Circuit

independent excitation and rotor rings made of copper. The
operating and excitation characteristics are given in Figs. 2.
and 3: they show that the motor works stably on no-load with
rated field current and has no tendency to fall out of step and
drop load provided the field current is maintained.
The efficiency figures given in Fig. 2 make no allowance for
windage and excitation system losses. When this is done
(considering germanium rectifiers) the motor efficiency is 0.79.
The static overload capacity of the motor with rated field
current is 50%. The results of dynamic stability tests are
given in Fig.4 in the form of oscillograms. Load was applied
and removed by means of an electro-magnetic brake. The stator
current variations are seen to be damped out quickly. The
motor works stably at 0.9 rated voltage, and the test results
indicate that it meets the main requirements applicable to
synchronous motors.
In starting tests, the motor behaves like a salient-pole
synchronous motor with solid poles. Magnetomotive force and
stator field diagrams for the case when there is current only
in the stator windings are given in Fig.5. Air-gap flux
Card3/5 measurements are plotted in Fig.6. The operation of the motor

An Experimental Investigation of a Synchronous Motor with an
Externally-closed Magnetic Circuit   110-3-6/??

under asynchronous conditions may be analysed by the usual
procedure for salient-pole synchronous motors. During the
starting period, it is considered as two equivalent multi-
winding transformers.
Various constructions of starting ring were tested in order to
obtain the requisite starting characteristics. When the rotor
has no copper rings, it behaves as though it had an incomplete
damper winding formed by the solid poles and the common cylin-
drical part which unites them. If the space between the two
magnetic parts of the rotor is filled with conducting material
solidly connected to the rotor steel, the rotor behaves as
though it had a complete damper winding. A number of different
rotor constructions were tested and gave the torque/slip curves
of Fig.7, which show that the best starting characteristics are
obtained with complete short-circuiting copper rings on the rotor.
The influence of the field windings on the starting character-
istics was investigated. Torque/slip curves for rotors with
and without copper rings with various conditions in the field
circuit are given in Fig.8. The conditions of pulling into
synchronism were investigated. The corresponding oscillograms
Card4/5 are given in Fig.9 and show that the motor pulls into step with

110-3-6/22

An Experimental Investigation of a Synchronous Motor with an
Externally-closed Magnetic Circuit

load on the shaft at rated field current if rotating at or
above 95% of synchronous speed. Other starting conditions
are also given. Behaviour during the starting period is seen
to be analogous with that of an ordinary salient-pole motor.
A motor that falls out of step because of short-term overload
or reduced voltage pulls into step again when normal conditions
are restored. The heating conditions are not severe when the
motor runs synchronously and there is no need to provide
special protection against this condition.
It is concluded that the construction of motors with externally-
closed magnetic circuit will make possible submersible and
explosion-proof synchronous motors and also motors with liquid
cooling of the windings, for which it is necessary to have a
cylinder of insulating material in the gap.
There are 9 figures and 7 Russian and 1 German references.

ASSOCIATION: NII EP

SUBMITTED: September 5, 1957

AVAILABLE: Library of Congress
Card 5/5

1. Syncros-Analysis   2. Syncros-Operation   3. Syncros-Excitation

VOSKANYAN, A.V.; KLYSHKO, D.N.; TUMANOV, V.S.

Frequency transformations in quantum systems with discrete energy levels. Zhur. eksp. i teor. fiz. 45 no.5:1399-1407 N '63.   (MIRA 17:1)

1. Moskovskiy gosudarstvennyy universitet.

69453
S/139/60/000/01/027/041
E032/E414

9,3130

AUTHORS: Ternov, I.M. and Tumanov, V.S.

TITLE: On the Motion of Polarized Electrons in a Magnetic Field

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika,
1960, Nr 1, pp 155-163 (USSR)

ABSTRACT: It is well known that the effect of electromagnetic
fields on the motion of a polarized electron beam can,
in the general case, be reduced to a change in the
momentum and the direction of the spin vector. In the
case of a purely magnetic field, this change takes place
in such a way that the component of the spin vector in
the direction of motion is conserved. The situation is
however complicated by the interaction of the electron
with the electromagnetic vacuum. This leads to an
additional energy which should be included in the
generalized Dirac equation. A consideration of the
effect of the vacuum interaction energy shows that in
the non-relativistic approximation, the electron has a
vacuum magnetic moment (in addition to the Bohr magneton)
so that the Hamiltonian in the generalized Dirac

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S/139/60/000/01/027/041
E032/E414

On the Motion of Polarized Electrons in a Magnetic Field

equation for an electron in the magnetic field is of
the form given by Eq (3). The presence of the additional
vacuum moment leads to the fact that the change in the
momentum vector and in the spin direction, when the
electron moves in a magnetic field, is such that the spin
component in the direction of motion is no longer an
integral of motion, since the operator (σP) no longer
commutes with the Hamiltonian of the generalized Dirac
equation. In this way, the original polarization of the
electron beam gradually changes with time. The vacuum
interaction plays the major part in the change in the
polarization since the kinematic (non-vacuum) part of the
magnetic moment is automatically taken into account by
the Hamiltonian given by Eq (2) and has no effect on the
polarization. The vacuum correction to the Dirac
equation (Eq (3)) in the form of an additional field
moment is only significant in the non-relativistic
approximation. The relativistic problem must be
Card 2/3   considered separately and this is done in some detail in

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S/139/60/000/01/027/041
E032/E414

On the Motion of Polarized Electrons in a Magnetic Field

the present paper. The treatment given holds up to
ultra-relativistic electron velocities. The derivation
is given of radiational corrections to the Dirac
equation, and the effective energy of interaction of an
electron with vacuum is computed. An estimate is also
given of the change in the orientation of the electron
spin vector which is due to the vacuum interaction.
The discussion is concluded with an example in which the
electron moves in a direction perpendicular to the
magnetic field. Acknowledgement is made to Professor
A.A.Sokolov for discussion of the results obtained.
There are 10 references, 6 of which are Soviet and
4 English.

ASSOCIATION: Moskovskiy gosuniversitet imeni M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov)

SUBMITTED: July 23, 1959
Card 3/3

TERNOV, I.M.; TUMANOV, V.S.

Radiation of a polarized "luminous" electron. Dokl. AN SSSR 124
no.5:1038-1041 F '59.   (MIRA 12:3)

1.Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
Predstavleno akademikom N.N. Bogolyubovym.
                    (Electrons)

TUMANOV, V. S. Cand Phys-Math Sci -- "Polarization and vacuum effects *connected*

with the motion of an electron in a magnetic field." Mos, 1961 (Min of Education

RSFSR. Moskovskaya Oblast Ped Inst im N. K. Krupskaya). (KL, 4-61 , 185)

-45-

ACCESSION NR: AP4037588   S/0056/64/046/005/1755/1760

AUTHOR: Tumanov, V. S.

TITLE: Wave equation and magnetic moment of a particle with spin 2

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 5, 1964, 1755-1760

TOPIC TAGS: wave equation, magnetic moment, spin, relativistic particle

ABSTRACT: In order to check on the hypothesis advanced by F. J. Belinfante (Phys. Rev. v. 92, 997, 1953) that the maximum projection of the intrinsic magnetic moment for arbitrary spin is equal to $e\hbar/2mc$, a relativistic wave equation is tentatively derived in matrix form for a particle with spin 2 in a magnetic field. This equation confirms Belinfante's hypothesis, which is likely to be valid for higher spin values, too. Orig. art. has: 35 formulas.

Card   1/2.

ACCESSION NR: AP4037588

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet (Moscow State
University)

SUBMITTED: 29Oct63   DATE ACQ: 09Jun64   ENCL: 00

SUB CODE: NP   NR REF SOV: 002   OTHER: 006

Card   2/2

TUMANOV, V.S.

> Wave equation and magnetic moment of a particle with spin 2.
> Zhur. eksp. i teor. fiz. 46 no.5:1755-1760 My '64.
>
> (MIRA 17:6)
>
> 1. Moskovskiy gosudarstvennyy universitet.

TERNOV, I.M.; TUMANOV, V.S.

Effect of vacuum fluctuations on the polarization of electrons moving in a magnetic field. Zhur.eksp.i teor.fiz. 37 no.4: 1137-1139 O '59.   (MIRA 13:5)

1. Moskovskiy gosudarstvennyy universitet.
          (Electrons) (Magnetic fields)

SOKOLOV, A.A.; TUMANOV, V.S.

Uncertainty relation and fluctuation theory. Zhur.eksp.i teor.fiz.
30 no.4:802-803 Ap '56.   (MLRA 9:8)

1. Moskovskiy gosudarstvennyy universitet.
          (Quantum theory) (Photons)

TUMANOV, V.S.

Effect of quantum fluctuation on electron motion. Vest. Mosk. un.
Ser. mat., mekh., astron., fiz. khim., 12 no.5:105-110 '57.
(MIRA 11:9)

1.Kafedra statisticheskoy fiziki i mekhaniki Moskovskogo gosudarstvennogo
universiteta.
    (Quantum theory) (Electrons)

According to the authors' opinion, explaining the indetermination relation as an uncontrollable interaction between object and measuring device (BOHR, HEISENBERG, etc.) in no way describes the physical nature of this relation. Such an explanation leads to a subjective idealistic interpretation of microcosmic phenomena.

The authors at first make the attempt, on the basis of some examples, to develop a theory of the motion of the electron in which quantum effects are more or less considered to be the result of the peculiar influence of a certain quantity of virtual particles (which form a vacuum). The analogy between the quantum effects and the theory of fluctuations can, for example, be found on the occasion of an investigation of the radial oscillations in the theory of the "emitting electron".

According to A.SOKOLOV and I.TERNOV, Dokl.Akad.Nauk, 97, 283 (1954) the square of the amplitude of macroscopic radial oscillations increases in accordance with the theorem $(\Delta R)^2 = R^2(1-q)^2(\Delta E/E)^2$. The same quantum-like formula may, however, be found also in semiclassical manner by taking into account the statistically independent fluctuation forces in the classical equation of oscillations of the electron. The authors interpret the identity of both methods as a con-

Zurn.eksp. i teor.fis, 30, 802-803 (1956) CARD 2 / 2   PA - 1226

nection between the quantum-like method and the theory of oscillations where the so-called MARKOV chains occur, i.e. the statistical independence of successive processes.

The authors endeavor to explain the quantum-like micro motion of the electron by the effect produced by fluctuations of virtual photons. Under the influence of the field of virtual photons the classical quantities x and p_x (momentum of the particle) become non-commutating operators, and in first approximation the same exchange relations as in the wave theory are obtained. If, for x and p_x the corresponding operator expressions are put, the energy levels for the harmonic oscillator are obtained. If a certain formula for the momentum is used, zero energy automatically contains the necessary terms of subtraction, and the finite quantity $E_0 = (\hbar \omega_0/2) + (\hbar \omega_0^2 e^2/3\pi c^3 m)(\ln(3c^3 m/2e^2 \omega_0)-1)$ remains.

The first term is the known expression for zero energy without vacuum terms, and the second term is due to the influence of the vacuum. Similarity to the corresponding strictly quantum-electrodynamically derived formula is shown. Thus, the classical motion of an electron itself becomes quantumlike by interaction with the secondarily quantized field of the (really emitted or only virtual) photons.

INSTITUTION: Moscow State University.

TUMANOV, Veniamin Vasil'yevich; ZERNOV, S.A., inzh., retsenzent; IVANOV, V.Ye., inzh., retsenzent; SHCHAVELEV, A.F., red.; VOLCHOK, K.M., tekhn.red.

[Investigation of rivers and lakes] Rechnye i ozernye izyskaniia. Leningrad, Izd-vo "Rechnoi transport," Leningr.otd-nie, 1960. 264 p.
(MIRA 13:9)

(Hydrographic surveying)

TURANOV, V. Ye.

36062 Paroezhektornaya kholodil'naya ustanovka. Za ekonomiyu topliva, 1949,
No. 11, S. 33-34

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, 1949

KERTSELLI,L.I., professor; TUMANOV,V.Ye., kandidat tekhnicheskikh
nauk

An electric steam boiler. Nauka i zhizn' 22 no.7:54-55 Jl '55.
                    (Boilers)   (MLRA 8:9)

TUMANOV, V. E.   PA 20T 46

USSR/Physics   Jul 1947
    Gas Analyzers
    Carbon Dioxide Equipment

"New Automatic Gas Analyzer for L. K. Yakimov's Carbon Dioxide Systems," L. K.
Yakimov, V. E. Tumanov, 5 pp

"Za Ekonomiyu Topliva" Vol IV, No 7

Largely mathematical discussion, fully illustrated with diagrams and tables of
operating data, concluding that the instrument satisfies requirements and can
be recommended for production on any scale.

9(3),24(4)

AUTHORS: Ternov, I. M., Tumanov, V. S.   SOV/20-124-5-21/62

TITLE: On the Radiation of a Polarized Electron (Ob izluchenii poly-
              arizovannogo svetyashchegosya elektrona)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 5, pp 1038-1041
              (USSR)

ABSTRACT: The authors investigated the radiation of a polarized rela-
              tivistic electron in a constant and homogeneous magnetic field.
              In this connection it is useful to demand that the wave
              function of the electron moving in the magnetic field
              $A_x = -(1/2)yH$, $A_y = (1/2)xH$, $A_z = 0$ be a solution of the
              Dirac equation and, besides, an eigenfunction of the operator
              of the spin projection on the kinetic momentum:
              $(\vec{\sigma}\,\vec{P})\psi = \vec{\sigma}(-i\hbar\vec{\nabla} + \frac{a}{c}\vec{A})\psi = \hbar k \int \psi$. It is useful to make such a
              selection of the wave function because the orientation of the
              spin of the electron with respect to the direction of its
              motion in a magnetic field remains conserved. The steady
              solution of the Dirac equation in the system of coordinates
              r, φ, z is explicitly written down. An expression for the

Card 1/3

On the Radiation of a Polarized Electron   SOV/20-124-5-21/52

polarized radiation of the electron at its spontaneous tran-
sition from the initial to another state is written down. The
matrix elements of the Dirac matrices are proportional to
certain Laguerre-functions. The authors above all estimate the
intensity of radiation at transitions with approximation of the
polarization of spin. The intensity of the radiation which is
connected with depolarization is much lower than the corre-
sponding value for transitions with conservation of polariza-
tion. For the investigation of the angular distribution of
radiation intensity the usual approximation of matrix elements
must be carried out, and the above-mentioned expression for
the intensity of the polarized radiation of the electron must
be summated with respect to all harmonics and radial transi-
tions. Next, rather long expressions are derived also for
the integral intensity of radiation. The polarization of the
electron manifests itself already in the terms of the order
of magnitude $\hbar$, although the radiation with the re-orienta-
tion of spin is of the order $\hbar^2$. The authors thank Professor
A. A. Sokolov and Professor D. D. Ivanenko for discussing the
problem and its results. There are 7 Soviet references.

Card 2/3

On the Radiation of a Polarized Electron   SOV/20-124-5-21/62

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
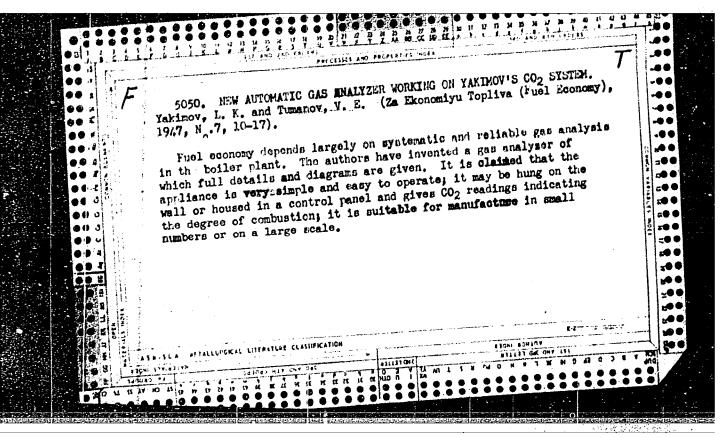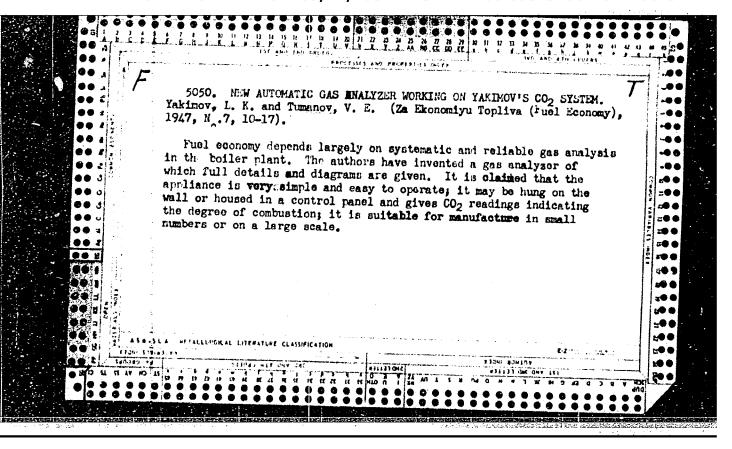   (Moscow State University imeni M. V. Lomonosov)

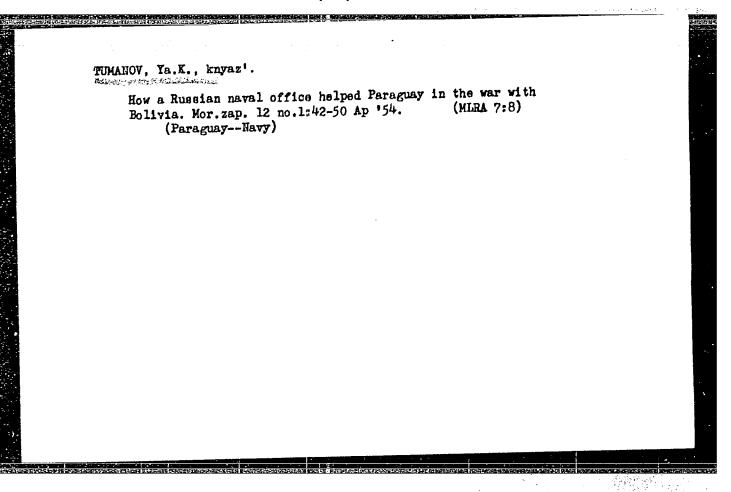PRESENTED: October 31, 1958, by N. N. Bogolyubov, Academician

SUBMITTED: October 24, 1958

Card 3/3

5050. NEW AUTOMATIC GAS ANALYZER WORKING ON YAKIMOV'S CO_2 SYSTEM.
Yakimov, L. K. and Tumanov, V. E. (Za Ekonomiyu Topliva (Fuel Economy),
1947, N.7, 10-17).

Fuel economy depends largely on systematic and reliable gas analysis
in th boiler plant. The authors have invented a gas analyzer of
which full details and diagrams are given. It is claimed that the
appliance is very simple and easy to operate; it may be hung on the
wall or housed in a control panel and gives CO_2 readings indicating
the degree of combustion; it is suitable for manufacture in small
numbers or on a large scale.

5050. NEW AUTOMATIC GAS ANALYZER WORKING ON YAKIMOV'S CO_2 SYSTEM.
Yakimov, L. K. and Tumanov, V. E. (Za Ekonomiyu Topliva (Fuel Economy),
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Fuel economy depends largely on systematic and reliable gas analysis
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appliance is very simple and easy to operate; it may be hung on the
wall or housed in a control panel and gives CO_2 readings indicating
the degree of combustion; it is suitable for manufacture in small
numbers or on a large scale.

TUMAHOV, Ya.K., knyaz'.

How a Russian naval office helped Paraguay in the war with
Bolivia. Mor.zap. 12 no.1:42-50 Ap '54.   (MLRA 7:8)
     (Paraguay--Navy)

TUMANOV, Ya.K., knyaz'.

How a Russian naval officer helped Paraguay in the war with
Bolivia. Mor.zap. 12 no.2:51-58 Jl '54.   (MLRA 7:8)
    (Paraguay--Navy)

TUMANOV, Yu.K., prince.

How a Russian naval officer helped Paraguay in the war with Bolivia. Mor.sap. 11 no.3:59-64 N '53.   (MLRA 6:11)
(Chaco War, 1932-1935)

TUMANOV, YE.

Zheleznodorozhnoe stroitel'stvo na Manchzhurskom platsdarme. /Railroad construction
in Manchuria). (Sots. transport, 1936, no. 5, p. 85-99, map).
DLC: HE7.S6

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress,
Reference Department, Washington, 1952, Unclassified.

L 13271-66   EWT(1)/EWT(m)/EEC(k)-2/EWP(j)/T/EWP(k)/EWA(m)-2   IJP(c)   WG/RM

ABSTRACT: An expression is derived for the relaxation time of bulk viscosity on the basis of the hydrodynamic and relaxation theories for sound propagation in a liquid. This makes it possible to determine the relaxation time from measurements of sound absorption and sound dispersion and to check the validity of the simplest relaxation theory with one relaxation time. In the experiments conducted, an He—Ne laser was used to investigate the spontaneous Brillouin scattering in the following liquids: C_6H_6, CCl_4, $CHCl_3$, $C_6H_5CH_3$, and CH_2Cl. The hypersound velocity in these liquids at a frequency of 4×10^9 cps was determined from the distances between the peaks of the Brillouin components, while the coefficient of absorption was determined from their

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L 13271-66

ACC NR: AP6002715   (

linewidths. The experimental data for some liquids agreed with the results of the
relaxation theory involving one relaxation time. The relative intensities of the
Brillouin components were measured and compared with theoretical data. Orig. art. h...
has: 10 formulas, 4 tables, and 5 figures.   [CS]

SUB CODE: 20/ SUBM DATE: 21Jul65/ ORIG REF: 012/ OTH REF: 012/ ATD PRESS: 4/8

Card   2/2

TUMANOV, YU.

Rumania - Canals

Danube - Black Sea. Mol. kolkh. 19 no.5, 1952.

TUMANOV, Yu.A., inzh.

Heller system condensation cooling installation. Teploenergeti-
ka 7 no.2:80-82 F '60.   (MIRA 13:5)
        (Steam turbines--Cooling)

BERMAN, L.D., doktor tekhn. nauk, prof.; TUMANOV, Yu.1., insh.

Effect of the velocity of steam on the mechanism and intensity
of heat exchange with pellicular condensation on a horizontal
pipe. Energomashinostroenie 10 no.5:24-28 My '64.
                                                        (MIRA 17:8)

BERMAN, L.D., doktor tekhn.nauk,prof.; TUMANOV, Yu.A., insh.

Heat emission during filmy condensation of stationary steam in a horisontal pipe. Izv. vys. ucheb. zav.; energ. 5 no.9:86-93 S '62.

1. Vsesoyuznyy ordena Trudovogo Krasnogo Znameni teplotekhnicheskiy institut imeni F.E.Dzerzhinskogo. Predstavlena otdeleniyem turbin i teplofikatsii.
    (Steampipes)   (Steam)-   (Heat—Transmission)

GALKIN, N.P.; TUMANOV, Yu.N.; TARASOV, V.I.; SHISHKOV, Yu.D.

Zirconium tetrafluoride vapor pressure. Zhur.neorg.khim. 8 no.9:
2021-2023 S '63.   (MIRA 16:10)

S/075/62/017/005/005/007
I033/I233

AUTHORS: Moiseyeva, L.M. and Tumanov, Yu. N.

TITLE: Spectrophotometric determination of uranium in the presence of molybdenum and vanadium with the aid of thiocyanate

PERIODICAL: Zhurnal analiticheskoy khimii, v.17, no. 5, 1962, — 595-597

TEXT: All published methods of determination of U by means of thiocyanate require the preliminary removal of Mo and V. In this work the possibility of determination of U in the presence of small quantities of Mo and V was investigated. At pH 2-3 the optical

Card 1/2

S/075/62/017/005/005/007
I033/I233

Spectrophotometric determination....

density (O.D.) of uranyl thiocyanate is 3-4 times higher than that of Mo and V. The O.D. of all complexes increases with CNS concentration. The greatest difference is observed for 80 g/l of NH_4CNS. Concentrations up to 3 g/l of ascorbic acid, used as a reducing agents do not affect the O.D. The O.D decreases with increase of the concentration of the NaCOOH medium. Beer's law is obeyed for the U concentration range of 0-12 mg/l. 1-10 mg/l may be determined in the presence of 5 ml/l of Mo or V, 1-2 g /l of Fe, 0.04 g/l of Ni, 0.2 g/l of Co, 0.03 g/l of Cu and 0.01 g/l of Pb, with an accuracy of 10%. There are 4 figures and 3 tables.

SUBMITTED: July 20, 1961

Card 2/2

MOISEYEVA, L.M.; TUMANOV, Yu.N.

Spectrophotometric determination of uranium by means of thiocyanate in the presence of molybdenum and vanadium. Zhur.anal.khim. 17 no.5:595-597 Ag '62.   (MIRA 16:3)
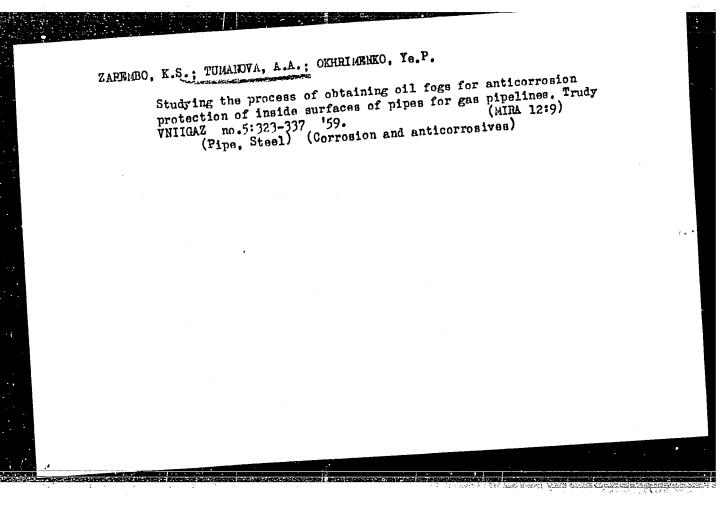   (Uranium--Spectra) (Thiocyanates)

TUMANOV, Yuriy Pavlovich

[Through the eyes of foreign guests] Glazami zarubezhnykh
gostei. Stalingrad, Stalingradskoe knizhnoe izd-vo, 1959.
67 p.   (MIRA 14:4)

(Stalingrad--Description)

TUMANOV, Yuriy Petrovich; KHAVINSON, Yu.I., red.

[Working time and leisure] Rabochee i svobodnoe vremia.
Irkutsk, Vostochno-Sibirskoe knizhnoe izd-vo, 1964. 94 p.
(MIRA 18:2)

TUMANOV, Yu. V.

Cand Tech_Sci - (diss) "Study of non-sprayer absorber with per-
forated /oroshayemaya/ Venturi tube." Moscow, 1961. 15 pp;
(Ministry of Higher and Secondary Specialist Education RSFSR,
Moscow Order of Lenin Chemical Technology Inst imeni Mendeleyev);
150 copies; price not given; (KL, 7-61 sup, 247)

ZAREMBO, K.S.; TUMANOVA, A.A.; OKHRIMENKO, Ye.P.

Studying the process of obtaining oil fogs for anticorrosion
protection of inside surfaces of pipes for gas pipelines. Trudy
VNIIGAZ no.5:323-337 '59.   (MIRA 12:9)
        (Pipe, Steel) (Corrosion and anticorrosives)

ZAREMBO, K.S.; PAVLOVA, N.M.; TUMANOVA, A.A.

General data of using gas pipelines placed at reduced depth.
Trudy VNIIGAZ no.13:160-168 '61.   (MIRA 14:12)
                    (Gas, Natural--Pipelines)

TUMANOVA, A. A.

PHASE I BOOK EXPLOITATION   SOV/2255

Vsesoyuznyy nauchno-issledovatel'skiy institut prirodnykh gazov

Razrabotka i ekspluatatsiya gazovykh mestorozhdeniy, transport gaza (Development
and Exploitation of Gas Fields, Transportation of Gas) Moscow, Gostoptekhizdat,
1959, 355 p. (Series: Its: Trudy, vyp. 5/13/) Errata slip inserted.
1,500 copies printed.

Sponsoring Agency: Glavnoye upravleniye gazovoy promyshlennosti pri Sovete
Ministrov SSSR.

Ed.: Ye. M. Minskiy and V.N. Rasben; Exec. Ed.: M.P. Martynova; Tech. Ed.:
A.G. Polosina.

PURPOSE: This collection of articles is intended for scientists, engineers,
and technicians associated with the gas industry.

COVERAGE: The articles discuss the development of gas fields, natural gas re-
covery, gas transportation, and subsurface gas conservation. Gas field operat-
ing conditions are analyzed from the commercial point of view. The author
notes that due to the specific geological conditions prevailing in the Soviet
Union the application of gas extraction methods of the type used in the USA
is not always advantageous. Individual articles discuss problems of the de-
velopment of gas fields with narrow oil containing fringes, the theory of gas
inflow, the study of gas well performance, gas filtration dynamics, and the
study of gas flow in pipelines. A number of articles are devoted to the study of gas
stabilized gas flow in pipelines, and discuss theoretical problems connected
with the performance of gas ejectors, and compression. The authors also deal
with corrosion of the inner surface of gas pipelines. Conclusions made by
the authors are supported by mathematical calculation, in personalities are
mentioned. References accompany each article.

Rhodsorich, I.Ye., and V.T. Tumanova. On the Automodel Determination of
Gas Flow in Pipelines   281

Rhodsorich, I.Ye., and V.T. Tumanova. Some Calculations on Gas Pipelines
With an Unstabilized Gas flow   281

Rhodsorich, I.Ye., and V.A. Tumanova. Accurate Determination of the Gas
Pipeline Throughput Capacity   280

Rhodsorich, I.Ye. and V.P. Radchenko. Effect of Connecting Rings on the
Throughput Capacity of a Gas Pipeline   296

Gordetskiy, T.I. On the Theory of Unstabilized Gas Stream Flowing Under
Uniform Pressure Throughout a Gas Pipeline   284

Fortsov, I.G. Steadiness of Stationary Operating Conditions of a Supersonic
Gas Ejector   281

Fortsov, I.G. and G.A. Zotov. Successive Operations of Gas Ejectors
Under Stationary Supercritical Conditions   286

Daskuryan, B.A. Study of the Acoustic Supercharging of a Piston Compressor,
Carried Out With the Aid of a Variable Volume Resonator   285

Bobsenkan, Yu.I., K.S. Zarembo, and Ye.P. Confimenko. Study of the
Distinctive Corrosion of the Inner Surface of the Gas-line Steel Pipes   301

Zarembo, K.S., Ye.P. Ohrimenko, and A.A. Tumanova. Study of the Process of
Oil Spray Used for the Anticorrosive Production of the Inner Surface of
Gas Pipelines   323

Shavler, B.F., and K.S. Zarembo. Experience Gained in Mastering the
Production of Oil Spray, and Its Utilization in a Municipal Gas Distributing
Network   338

TUMANOVA, A. F.

"Immediate and Long-Range Results of the Treatment of Malignant Tumors of the Ovaries by Surgical and Combination Methods." Cand Med Sci, Gor'kiy Medical Inst, Gor'kiy, 1954. (RZhBiol, No 4, Feb 55)

SO: Sum. No. 631, 26 Aug 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

BUYKO, G.N.; SHVARTS, A.G.; TUMANOVA, A.I.

    Tires made from synthetic polyisoprene rubber. Kauch.i rez.
16 no.5:1-11 My '57.   (MLRA 10:7)

1. Nauchno-issledovatel'skiy institut shinnoy promushlennosti.
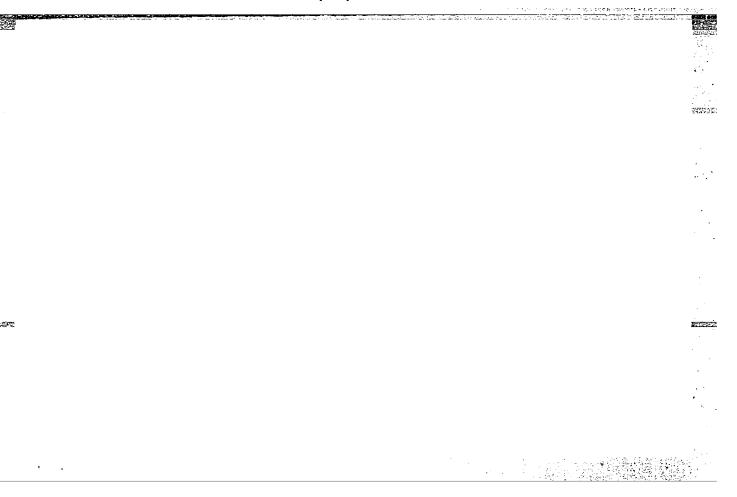   (Automobiles--Tires) (Isoprene)

LAVRENT'YEV, V.I. Prinimali uchastiye: POL'SHINSKIY, V.V., starshiy
nauchnyy sotrudnik; AKOPOVA, A.A., starshiy nauchnyy sotrudnik:
SHAYKHUTDINOVA, L.K.; inzh.; SHAGEYEVA, L.A.; inzh.; TUMANOVA,
A.M., preparator; STAROSTIN, P.A., inzh.; BALAKHONOV, A.P.,
motorist; ARTEM'YEV, V.G., motorist.

Using the heavy residual fractions of Tatar sour crude as a
fuel for gas turbines. Nefreper. i neftekhim. no.4:27-34 '63
(MIRA 17:7)

1. Tatarskiy neftyanoy nauchno-issledovatel'skiy institut.

ROM-BUGOSLAVSKAYA, Ye.S.; TUMANOVA, A.N.

Clinical variations of hemorrhagic vasculitis. Kaz.med.
zhur. no.3:50-52 My-Je '63.   (MIRA 16:9)

1. Terapevticheskiye otdeleniya 32-y bol'nitsy (glavnyy
vrach - I.S.Yefimov) i 12-y bol'nitsy (glavnyy vrach-
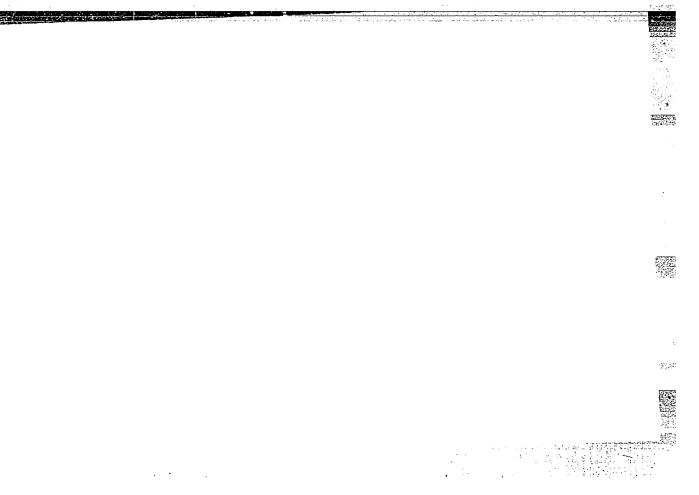A.I.Kirichenko) Khar'kova.
                    (PURPURA (PATHOLOGY))

TUMANOVA, A.V.; GUBANOV, V.A.; DOLGOPOL'SKIY, I.M.

Reactions of silver salt of perfluoromethoxyperfluoropropionic
acid with halogens. Zhur. ob. khim. 35 no.3:587-588 Mr '65.

Characteristics of the polarization of the double bond of
perfluoromethylperfluorovinyl ether. Ibid.:588

(MIRA 18:4)

TUMANOVA, A.V.

PETROV, A.A.; TUMANOVA, A.V.

Conjugated systems. Part 71. Dimerization of fluoroprene.
Zhur.ob.khim. 26 no.12:3314-3318 D '56.   (MLRA 10:7)
            (Fluoroprene)   (Polymerization)

TUMANOVA, A.V.

PETROV, A.A.; TUMANOVA, A.V.

Conjugated systems. Report No.68: Diene synthesis in presence of fluoroprene. Part 1: Condensation of fluoroprene with α, β - unsaturated aldehydes and ketones. Zhur. ob. khim. 26 no.10:2744-2749 O '56.   (MIRA 11:2)

(Fluoroprene)

AUTHORS: Dolgopol'skiy, I. M., Tumanova, A. V.   SOV/79-28-7-14/64
                Dobromil'skaya, I. M., Yegudina, M. F.

TITLE: The Synthesis of Ethyl- and 2-Propylbutadiene-1,3 (Sintez
                2-etil-i 2-propilbutadiyenov-1,3)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 7,
                pp 1782 - 1784 (USSR)

ABSTRACT: Based on their experience collected in the previous paper
                (Ref 7) the authors carried out again the synthesis of butadiene
                from α-chloro-methyl allene. When corresponding magnesium
                alkyl halides act, upon it, 2-ethyl- and 2-propyl butadienes-1,3
                are obtained. The yield of alkyl butadienes under the most
                favorable conditions amounted to a maximum of 26%, as side
                reactions took place. A dimer of propylbutadiene-1,3; n-hexane
                and hexadiene-1,3 was separated as side product. Besides a
                considerable amount of polymers was obtained which point to a
                condensation of two molecules of α-chloro methyl allene under
                the formation of octatetraene as well as to its subsequent
                isomerization to a compound with a system of double compounds
                which again polymerizes (reaction scheme). The properties of
Card 1/2   the synthetized alkyl butadienes are mentioned in the table.

The Synthesis of Ethyl- and 2-Propylbutadiene-1,3   SOV/79-28-7-14/64

According to Kaufmann (Kaufman) by titration with bromine
the authors determined that these compounds exhibit ar un-
saturated character. To prove that the alkyl butadienes have
a diene structure they were condensed with maleic acid an-
hydride in benzene solution. The melting points of the products
obtained from it are also shown in the table. There are 1
table and 9 references, 3 of which are Soviet.

SUBMITTED: June 13, 1957

1. Butadienes--Synthesis   2. Condensation reactions

Card 2/2